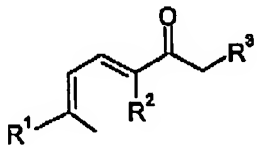
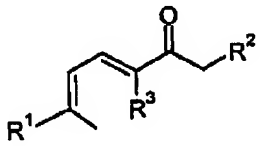
## AMENDMENTS TO THE CLAIMS

1. (Original) A continuous process for preparing pseudoionones of the general formulae I or I′ and isomers thereof



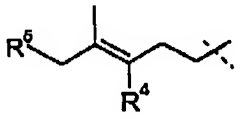
(I)

or



(I′)

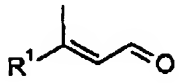
where $R^1$ is

$CH_3$ or 

$R^2$, $R^3$ are each hydrogen, $CH_3$ or $C_2H_5$,

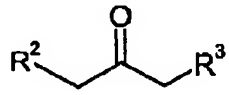
$R^4$, $R^5$ are each hydrogen or $CH_3$,

by reacting an aldehyde of the formula (II)



(II)

with an excess of a ketone of the general formula (III)



(III)

where $R^1$, $R^2$ and $R^3$ are each as defined above, in the presence of water and alkali metal hydroxide at elevated temperature in homogeneous solution, which comprises

mixing the homogeneous solution of aldehyde, ketone and aqueous alkali metal hydroxide at a temperature of from 10 to 120°C, then

removing the water and alkali metal hydroxide which have not dissolved in the reaction mixture,

subsequently passing the homogeneous reaction mixture, avoiding backmixing, at a temperature which is from 10 to 120°C above the boiling point of the lowest-boiling component and a vapor pressure p of from $10^6$ to $10^7$ Pa through a reactor which enables a residence time of from 2 to 300 minutes,

cooling the reaction mixture under decompression,

removing the ketone from the reaction mixture with steam in countercurrent and

drying the crude product and freeing it of excess aldehyde and secondary components using a rectification column.

2. (Original) The process according to claim 1, wherein the ketone component of the general formula (II) is added in a from 5- to 50-fold molar excess, and the unconverted proportion, downstream of the reaction zone, is removed at a pressure of from $10^7$ to $5 \cdot 10^8$ $mPa_{abs.}$ and added again to the fresh ketone for the synthesis.

3. (Previously presented) The process according to claim 1, wherein the reaction temperature at a given residence time is selected in such a way that the conversion of the aldehyde component is from 60 to 98%, and the unconverted aldehyde is removed and recycled into the reaction.

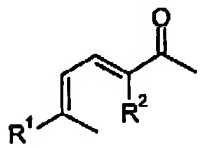
4. (Previously presented) The process according to claim 1, wherein the water content of the ketone, used for the reaction, of the formula (III) is between 1 and 15% by weight.

5. (Previously presented) The process according to claim 1, wherein the concentration of the alkali metal hydroxide used for the reaction is between 0.005 and 50% by weight.

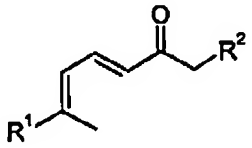
6. (Previously presented) The process according to claim 1 for preparing pseudoionones of the formula I and isomers thereof where $R^2$ or $R^3$ is methyl, wherein the concentration of the alkali metal hydroxide used for the reaction is from 10 to 50% by weight.

7. (Previously presented) The process according to claim 1, wherein the ketone of the formula (III) used consists substantially of excess ketone of the formula (III) which has been removed from the reaction and has a water content of 1 – 15% by weight, which may be supplemented with either anhydrous or aqueous ketone of the formula (III) having a water content of 1 – 15% by weight.

8. (Previously presented) The process according to claim 1, wherein, in the case of reaction with ketones of the general formula (III) where $R^2 \neq H$ and $R^3 = H$, a product mixture is obtained which contains from 70 to 95% n-alkylpseudoionones and from 5 to 30% isoalkylpseudoionones

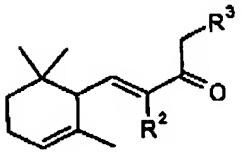



iso - alkylpseudoionone



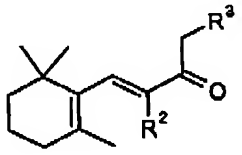

n - alkylpseudoionone

9. (Previously presented) A continuous process for preparing ionones of the general formulae (IV), (V) and (VI) and isomers thereof, which comprises reacting the pseudoionones obtained according to claim 1 to give ionones of the general formulae (IV) to (VI)



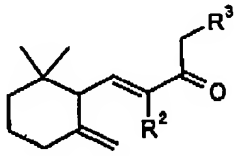

α-Isomer

(IV)




β-Isomer

(V)




γ-Isomer

(VI)

in the form such that the ratio of the n-form ($R^2$ = H, $R^3$ = alkyl) to the iso-form ($R^2$ = alkyl, $R^3$ = H) is maintained.

10. (Previously presented) The process according to claim 9, wherein the pseudoionones are reacted with highly concentrated sulfuric acid in the presence of a diluent which is inert under the reaction conditions to give ionones, the reaction temperature being 0-20°C and the residence time between cyclization and hydrolysis being from 10 to 300 seconds.

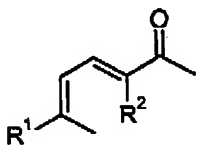
11. (Previously presented) The process according to claim 3, wherein the water content of the ketone, used for the reaction, of the formula (III) is between 1 and 15% by weight.

12. (Previously presented) The process according to claim 11, wherein the concentration of the alkali metal hydroxide used for the reaction is between 5 and 10% by weight.

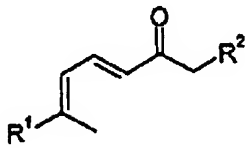
13. (Previously presented) The process according to claim 12 for preparing pseudoionones of the formula I and isomers thereof where $R^2$ or $R^3$ is methyl, wherein the concentration of the alkali metal hydroxide used for the reaction is from 35 to 45% by weight.

14. (Previously presented) The process according to claim 13, wherein the ketone of the formula (III) used consists substantially of excess ketone of the formula (III) which has been removed from the reaction and has a water content of 1 – 15% by weight, which may be supplemented with either anhydrous or aqueous ketone of the formula (III) having a water content of 1 – 15% by weight.

15. (Previously presented) The process according to claim 14, wherein, in the case of reaction with ketones of the general formula (III) where $R^2 \neq H$ and $R^3 = H$, a product mixture is obtained which contains from 70 to 95% n-alkylpseudoionones and from 5 to 30% isoalkylpseudoionones

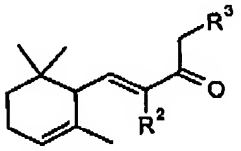
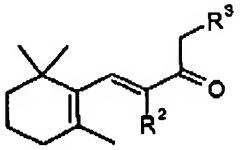
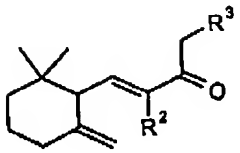



iso - alkylpseudoionone




n - alkylpseudoionone

16. (Previously presented) A continuous process for preparing ionones of the general formulae (IV), (V) and (VI) and isomers thereof, which comprises reacting the pseudoionones obtained according to claim 15 to give ionones of the general formulae (IV) to (VI)

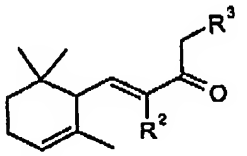
α-Isomer β-Isomer γ-Isomer

(IV) (V) (VI)

in the form such that the ratio of the n-form ($R^2$ = H, $R^3$ = alkyl) to the iso-form ($R^2$ = alkyl, $R^3$ = H) according to claim 15 is maintained.

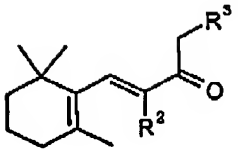
17. (Previously presented) The process according to claim 16, wherein the pseudoionones are reacted with highly concentrated sulfuric acid in the presence of a diluent which is inert under the reaction conditions to give ionones, the reaction temperature being 0-20°C and the residence time between cyclization and hydrolysis being 120 seconds.

18. (New) A continuous process for preparing ionones of the general formulae (IV), (V) and (VI) and isomers thereof, which comprises reacting the pseudoionones obtained according to claim 1 to give ionones of the general formulae (IV) to (VI)



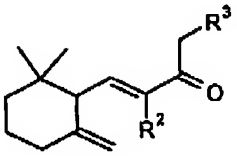
α-Isomer

(IV)



β-Isomer

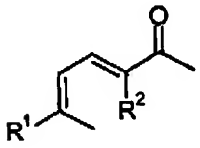
(V)



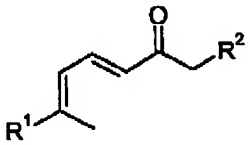
γ-Isomer

(VI)

in the form such that the ratio of the n-form ($R^2$ = H, $R^3$ = alkyl) to the iso-form ($R^2$ = alkyl, $R^3$ = H) is maintained which contains from 70 to 95% n-alkylpseudoionones and from 5 to 30% isoalkylpseudoionones



iso - alkylpseudoionone



n - alkylpseudoionone